

Effects of Prolonged Consumption of Pornography

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Most experimental investigations of the behavioral consequences of exposure to graphic portrayals of sexual activities have employed a research paradigm in which (a) subjects consume pornographic stimuli just once and (b) any effects are ascertained more or less immediately thereafter (cf. Donnerstein, 1984b; Malamuth, 1984; Sapolsky, 1984; Zillmann, 1984). This paradigm has much to recommend itself and is particularly suited to the testing of specific proposals concerning the psychological and physiological mediation of known consequences. However, as a means of establishing perceptual, attitudinal, and behavioral changes, especially lasting ones, the paradigm can rightly be questioned. First, many effects of interest may manifest themselves only after repeated exposure to critical stimuli. Second, and equally important, effects may be transient (cf. Berkowitz & Heimer Rogers, 1986; Wyer & Srull, 1981; Zillmann, 1983) and without consequence for later behavior. In establishing perceptual, attitudinal, and behavioral consequences of the consumption of pornography, then, it would seem imperative to employ designs that accomplish (a) repeated exposure with between-exposure intervals that simulate characteristic consumption patterns and (b) delayed assessments of effects with an interval between consumption and effects that rules out that the effects are of trivial duration. Experimental investigations that employed this latter type of design in exploring the effects of the consumption of pornography have actually been conducted and are summarized in this paper.

The prolonged-exposure paradigm has been pioneered in two investigations that were initially presented in the Technical Report of the Commission on Obscenity and Pornography (1971). Mann, Sidman, and Starr (1971; see also Mann, Berkowitz, Sidman, Starr, & West,

1974) explored the effect of repeated exposure to pornography on sexual behavior; and Howard, Reifler, and Liptzin (1971; see also Reifler, Howard, Lipton, Liptzin, & Widmann, 1971) probed consequences for excitation and cognition in the later consumption of pornographic materials.

Mann et al. exposed married couples in four consecutive weekly sessions to sexually explicit films or, in a control condition, to nonerotic films. During the treatment period, subjects recorded their sexual activities in diaries. Exposure to erotica was found to stimulate sexual behavior only shortly. Sexual activities were more frequent on exposure days than on the days thereafter. The transitory, sex-stimulating effect diminished over the weeks and became negligible in the fourth week. Mann et al. emphasized that this stimulating effect was rather nonspecific, manifesting itself in a variety of sexual activities with which the couples were familiar. The investigators concluded that the couples did not adopt depicted sexual practices that were not already part of their behavioral repertoire. Exposure to pornography merely seemed to revive well established but dormant sexual practices.

The conclusion that pornography does not entice consumers to try out novel sexual practices is compromised by the fact that the investigation was conducted with couples who were married for at least ten years. Couples with such sexual histories presumably could detect little, if anything, in the erotic materials that was not already part of their sexual repertoire. The conclusion also clashes with more recent findings which show that sexually inexperienced persons readily accept and are willing to practice particular sexual behaviors that they have witnessed on the screen (e.g., Wishnoff, 1978). Most importantly, however, the findings reported by Mann et al. seem of

little consequence for considerations of public health because effects of pornography on sexual behaviors are, in general, not feared to produce socially undesirable effects. The instigation of sexual interest and desire, as well as the likely expansion of repertoires of sexual techniques through modeling (cf. Bandura, 1969, 1971), are--without visible opposition--accepted as positive effects of pornography. The notable exception is the use of pornography in the enticement of prepubertal girls and boys to take part in sexual activities with adults (Lanning, 1984). However, these uses have, for obvious reasons, not been subjected to systematic effects research.

In the Howard et al. investigation of the effects of pornography consumption on later reactions to pornography, male college students were given access to pornographic films, photographs, and readings, or they were not given such access in a control condition. This was done in 15 sessions that were distributed over a three-week period. The experimental subjects were free to choose from among these materials and from among nonerotic ones in the first 10 sessions. In the following three sessions, the original pornographic materials were replaced by new ones. In the last two sessions, the nonerotic materials were removed. Each session lasted 90 minutes, and during this time the subjects recorded their activities at regular intervals. Both experimental and control subjects were shown an explicitly sexual film prior to and following the extended exposure treatment. Eight weeks after the treatment, the experimental subjects were once more shown an explicitly sexual film. Numerous measures of sexual arousal were taken during and after exposure to the films, and a battery of self-perception and attitudinal measures was recorded following exposure.

The findings show, first of all, that the young men initially had

a strong interest in pornographic films. However, this interest faded rapidly with repeated consumption. Pornographic photographs and readings received comparatively little attention, but this attention was sustained. The eventual introduction of novel pornographic materials failed to return interest to the initial high levels. Following the unrestricted consumption of pornography in the experimental condition, subjects characterized their reactions to pornography as boredom. Although interest in pornography was maintained to some degree, the findings give no indication that frequent consumption of the materials in question fosters or facilitates favorable reactions such as enjoyment.

The analysis of the physiological data yielded results that are consistent with decreased interest or increased boredom. It revealed a loss of responsiveness as the result of frequent consumption. Exposure to an explicitly sexual film immediately after the conclusion of the longitudinal treatment produced diminished reactions of sexual excitedness. On the most direct measure of sexual arousal, penile tumescence, reduced responsiveness was obtrusively evident. Erections were less pronounced and more poorly maintained than prior to frequent exposure to pornography. Complementary measures, such as release of acid phosphatase, showed redundant changes. Sympathetic activity, a vital concomitant of sexual excitedness, also underwent parallel changes. Heart rate, respiration rate, and skin temperature indicated reduced responsiveness. The loss of specifically sexual responsiveness, however, appeared to be more consistent and more pronounced than that of its sympathetic accompaniment. Finally, the remeasurement of physiological reactions to pornography after a period

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Figure 1  
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of eight weeks, during which subjects were not treated in any particular way, revealed some degree of recovery from the loss of responsiveness. But more importantly, this responsiveness remained markedly suppressed. The findings on erection are characteristic. They are summarized in Figure 1.

The investigation reported by Howard et al. is not without problems. In the 10 initial exposure sessions, subjects' choice of pornography was severely limited. What appeared to be a loss of interest in pornographic films is more likely the result of subjects having exhausted the pool of available films. As the subjects themselves had to record their consumption choices, it is additionally likely that they experienced evaluation apprehension and avoided giving the impression of excessive erotic interest and eagerness by not watching the films repeatedly. The conclusions about rapidly growing disinterest in and boredom with pornography that were drawn under these circumstances, together with the authors' insinuation that interest in pornography is self-corrective, can only be considered highly tentative. In fact, these conclusions were proved wrong by subsequent research yet to be described. Additionally, the projection of growing boredom and disinterest is quite obviously faulted by the continued commercial success of pornography as a genre of entertainment. What the study does show, with some degree of rigor, is that consumers of pornography grow tired of watching the same materials repeatedly (see also Kelley, 1982).

The observation of diminished excitatory responding, in terms of both specific sexual arousal and accompanying sympathetic activity, is not compromised by these procedural difficulties, however. Eventually, subjects were virtually forced to consume pornography (in the later sessions); and the intended, strong difference in

pornography consumption between the experimental and control groups was accomplished. The demonstration of substantial, enduring habituation effects of prolonged pornography consumption, then, is not in doubt. The consequences for public health are not immediately apparent, however. Habituation of excitatory reactivity might be specific to erotic entertainment and merely reduce enjoyment of the material. Pornographic materials might also start to fail as convenient arousers for sexual activities of parties exploiting them in this capacity. On the other hand, the lessened excitatory reaction to erotic entertainment might generalize, to some degree, to erotic stimuli employed as arousers in actual, intimate, sexual settings. But these possible consequences have not been explored systematically.

A point to be made in this connection is that the enduring physiological changes that result from prolonged exposure to pornography are, in all probability, not modifiable by intervention techniques of "mere talk" (that is, by cautioning subjects to be on guard, by making them aware of the behavioral changes that occurred, and/or by debriefing them in the sense of telling them how they should undo and correct influences, and how, ideally, they should behave). Abstinence from pornography offers itself as a viable behavior-modification strategy for the regaining of the lost responsiveness--if such regaining of sensitivity to pornographic materials is deemed desirable. However, strategies of this kind also have gone unexplored.

The excitatory, attitudinal, and perceptual consequences of prolonged consumption of pornography were further explored in an investigation by Zillmann and Bryant (1982, 1984). In contrast to the experiment conducted by Howard et al., both male and female subjects were employed and exposure to pornography was strictly controlled.

Subjects came to six exposure sessions in consecutive weeks. In each session, they saw (a) six pornographic films, (b) three pornographic and three innocuous films, or (c) six innocuous films. The pornographic films were taken from a super-8 color series called "Swedish Erotica." They depicted heterosexual activities among consenting adults in all conceivable manifestations. However, they did not involve sadomasochistic acts or anything, such as bondage, that could be construed as nonvoluntary or coercive behavior on someone's part.

One week after the last exposure session, subjects' excitatory and evaluative responses to three additional films were ascertained. The films featured (a) sexual activities in a suggestive fashion (as characteristic of R-rated material), (b) common sexual activities in graphic detail (X-rated), and (c) uncommon sexual activities in graphic detail (X-rated sadomasochistic ventures and bestiality). Similar assessments were made two weeks after the exposure treatment. Finally, in the third week after the treatment, the subjects participated in a purportedly independent study said to be conducted for the American Bar Association. Subjects dealt with a case in which a female hitchhiker was raped. They recommended the prison term, in years and months, they thought was fair and most appropriate under the circumstances. Eventually, subjects estimated the popularity of sexual practices among all sexually active American adults and reported their concerns about the impact of pornography.

The findings regarding excitatory and evaluative changes are summarized in Figures 2, 3, and 4. Figure 2 shows the habituation of

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Figures 2, 3, and 4  
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excitatory responding in terms of systolic blood pressure. Other

measures of sympathetic activity proved redundant. Predictably, the strongest habituation occurred for stimuli that had been massively consumed. Also predictably, habituation generalized, to some degree, to less explicit portrayals of common sexual activities. The total lack of generalization to uncommon and, hence, relatively novel sexual practices in pornography was not expected, however.

Figure 3 shows that prolonged exposure to common pornography reduces initial reactions of repulsion. Figure 4 shows that this loss of repulsion does not necessarily translate into increased enjoyment. Prolonged consumption of common fare fostered more favorable evaluations of portrayals of uncommon sexual practices only. Because intense enjoyment hinges on heightened sympathetic activity (cf. Zillmann, 1980), the diminished excitatory reaction to suggestive and common material presumably resulted in flat pleasurable reactions, if not in disappointment.

The same response patterns were observed in the second week after the initial exposure treatment. As the findings reported by Howard et al. had suggested, the duration of excitatory habituation is indeed substantial. Related evaluative consequences appear to be similarly enduring.

The rape case, presented three weeks after the habituation treatment, produced remarkably strong and partly unexpected effects.

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Figure 5  
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As can be seen from Figure 5, prolonged consumption of common, nonviolent pornography trivialized rape as a criminal offense. After prolonged exposure to messages that depict women as sexually insatiable, as socially nondiscriminating in the sense that they seem eager to accommodate the sexual desires of any man in the vicinity,

and as hypereuphoric about any kind of sexual stimulation, men apparently find exaggeration in the trauma of rape and consider lesser prison terms appropriate. This outcome was expected. Unexpected was the finding that women become similarly lenient with rapists, although they treat them altogether more punitively than do men. The public-health implications of these findings, then, do not only concern the evaluation of rape as a most fundamental violation of human rights, but also the self-concept of women as a gender--in addition to the perception of women's sexuality by men.

Regarding the perception of sexuality in general, subjects with prolonged exposure to pornography, as Figure 6 shows, overestimated

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Figure 6  
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the popularity of all less common sexual practices. This shift in the perceived normalcy of sexual behaviors can be expected to promote tolerance toward behaviors deemed "deviant" by others. However, specific evaluations that could validate such a proposal were not collected. The investigation entailed, instead, measures of callousness toward women generally, as well as measures of subjects' concern about the impact of pornography on society. Prolonged consumption of pornography was found to promote men's callousness toward women and to diminish concerns about pornography's impact in both genders (e.g., subjects came to believe that minors would not suffer undue emotional distress from exposure to pornography and that restrictions are largely inappropriate and unnecessary).

Linz (1985; see also Linz, Donnerstein, & Penrod, 1984) conducted investigations to clarify the mediation of men's callousness toward women. In a first study, male subjects were exposed to violent, female-victimizing, but nonpornographic films such as "Texas Chainsaw

Massacre." Subjects watched one movie on five consecutive days. Immediately after the last showing, they participated in a rape trial. Subjects dealt with a case in which an encounter between strangers in a bar eventually led to the sexual assault.

The first- and last-day films were counterbalanced to allow assessments of diminishing sensitivity to violence. Subjects evaluated numerous aspects of each film after exposure. The comparison of these evaluations shows that men came to report fewer emotional disturbances from the same films when shown last (i.e., after four similar others). Such habituation also manifested itself in the perception of lesser violence and diminished degradation of women. This perceptual shift was carried into the subsequent trial. Men who had consumed the series of violent films, compared to men without such exposure, came to judge the victim of violent assault and rape as having suffered less, as having been injured less, but also as now being less worthy altogether.

A second study compared the effects of repeated consumption of R-rated violent films, of R-rated sexual films, and of X-rated nonviolent pornography. Exposure was either to two or, as before, to five films. Film ratings were obtained immediately after exposure, but the rape trial was delayed to the second day after exposure to the last film. Additionally, the subjects were recruited independently and had to come to a different building. The case was altered also. It now involved the alleged rape of a woman at a fraternity party.

Concerning the perception of rape and its victims, this second study shows, as did the first, that the consumption of violent material occasions a loss of sympathy with and compassion for the victims of sexual assaults (i.e., less injury, less worth). The additional finding that subjects who had consumed R-rated sexual

movies or X-rated nonviolent pornography had similar effects was unexpected. Donnerstein (1984a) conceded: "What we consistently find is" that "those subjects ... who have seen the R-rated films, the X-rated films or the X-violent films, perceive less injury on the part of the victim (p. 92)." According to Linz's studies, then, sexual themes desensitize men toward rape victims just as strongly as do violent themes with sexual undercurrents. In fact, the findings show that the desensitization effect was the strongest for nonviolent pornography (cf. Donnerstein, 1984a, p. 92). Nonviolent pornography thus must contain information that promotes callousness in men toward sexually victimized women.

Weaver (1986) conducted an investigation to determine exactly which stimuli within violent and/or erotic entertainment produce the callousness in question. Male and female subjects were exposed to nonviolent and nonerotic scenes in a control condition, to scenes featuring lovers enjoying sexual activities, scenes featuring nymphomaniacal escapades, scenes featuring rape, or scenes featuring the terrorization of women without involving clearly sexual threats. Subjects later participated in ostensibly independent legal research, dealing with a case of physical abuse of a female cohabitant and with a case of rape. Exposure to the films was of no consequence for the damage suit. Judgments of appropriate punishment for rape were greatly affected, however. Compared with the control condition, exposure to the film depicting women as sexually insatiable and socially nondiscriminating--which, it should be noticed, is a most salient theme in nonviolent pornography--reduced recommended incarceration terms most strongly (by 37%). Rape and terror had intermediate effects (28% reduction). Lovers' sex, finally, had only an insignificant effect (11% reduction). These effects were rather

uniform across gender of respondent. The only discrepancy occurred in the terror condition. In this condition, females were highly punitive toward the rapist, but men were not.

The findings show, first of all, that particular sexual cues that are entirely devoid of violence are indeed potent mediators of sexual callousness toward women. Second, they show that the terrorization of women fosters such callousness in men. Third, they suggest that not all nonviolent erotica are equally involved in the mediation of callousness concerning rape and its victims.

The research conducted by Linz (1985) thus helped to establish evaluative components of rape callousness. It failed in another regard, however. Exposure to the various erotic and violent materials failed to influence punitive recommendations appreciably. The same is the case with a subsequent study by Krafka (1985) involving female instead of male respondents. In this study, subjects were exposed to a violent, a sexually violent, or a pornographic movie in four consecutive days. They participated in the fraternity party rape trial on the fifth day. The main finding was that women, after consuming violent fare, thought it less likely that they themselves could become victims of violence. The same group also showed little sympathy for the rape victim in the trial. However, punitive recommendation again did not differ as a function of exposure to the different genres of film.

These null results can be viewed as failures to replicate earlier findings. The question is: Why did Linz and Krafka fail to obtain positive findings? One way out of this is to deny failure and to allege that earlier positive findings were artificial. This was quickly suggested by arguing that subjects detected a connection between the exposure treatment and the rape trial and thought to

please or thwart the experimenter by rendering verdicts that did not truly reflect how they felt about the rapist. Although this kind of argument favors null effect by projecting inflated error variance, some thought it to explain specific effect patterns. Because in the initial demonstration of diminished punitiveness toward rapists the same experimenter administered the exposure treatment and the trial in the same building, while in the null-result studies experimenter and building were varied from the first to the second part of the experiment, it was deemed conceivable that subjects came to entertain notions about the connectedness in the former situation.

To rule out the possibility that sameness of experimenter and locale created the effects reported by Zillmann and Bryant (1982), Bryant (1986) conducted an investigation in which experimenter and locale were systematically varied. Subjects were exposed to pornography on five consecutive days and participated in the rape trial two days later. For the first and the second part of the study, they dealt either with the same experimenter or with different experimenters, and they did so either in the same building or in different buildings. Compared with a control condition in which subjects consumed innocuous material instead of pornography, punitive behavior toward the rapist was reduced in all pornography conditions. Sameness of experimenter and locale contributed to this effect. But most importantly, incarceration recommendations in the different experimenter, different locale condition were significantly below those in the control condition.

Bryant's findings show that the trivializing effect of prolonged consumption of pornography on rape as a criminal offense is not an artifact of procedure. It is robust, and its experimental demonstration is replicable. Linz's and Krafka's failure to obtain

differences in punitiveness thus must result from alternative procedural features of their research. At least three of them stand out as likely candidates: (a) In contrast to the earlier used case in which rape was brutal and never in doubt, the cases used by Linz and Krafka were highly ambiguous. The rapist enjoyed some mitigating circumstances. The initial issue was, in fact, his guilt or nonguilt dependent on whether, in the subjects' perception, rape had or had not occurred. Such ambiguity can only increase error variance and therefore must be considered to favor null effects. (b) Subjects rated each film on numerous aspects of violence and sex, and they determined how demeaning each film was to the one or the other gender. Such assignments must have created a high degree of awareness about what the investigators considered important media influences, and subjects may have guarded against these influences. (c) Prior to rendering a verdict, the subjects had to respond to empathy questions concerning rapist and victim. Subjects who initially may have felt little sympathy for the victim may well have become sympathetic after responding to such empathy requests. Under these procedural circumstances, the null results should be expected rather than come as a surprise.

Zillmann and Bryant (1986a, 1986b, in press) conducted a series of investigations into effects of prolonged consumption of pornography that go beyond callousness in connection with rape and its victims. Specifically, they explored the implications of such consumption for (a) perceptions and attitudes concerning sexually intimate relationships, especially marriage and the family as essential societal institutions, (b) personal happiness and sexual satisfaction, and (c) possible shifts in erotic appetite.

The experimental paradigm was much the same as that of the

earlier work (Zillmann & Bryant, 1982, 1984). Both male and female subjects consumed either nonviolent pornography or innocuous materials in hourly sessions in six consecutive weeks. An intermediate exposure condition was not employed, however. Instead, efforts were made to expand the generalizability of findings by representing nonstudents in addition to students. Nonstudents were recruited in strict adherence to procedures of random sampling. The withdrawal rate upon revelation of the nature of the research was substantial, however. As a result, the findings on nonstudents can not be considered representative of the adult population at large. A final change concerns the pornographic materials: Instead of films, the latest color & sound videocassettes were acquired from rental stores. But the materials were screened, as before, to assure that none of the depicted behaviors were violent or coercive or could be construed in these terms.

One week after the exposure treatment, subjects participated in ostensibly unrelated work on the American family and aspects of personal happiness. They responded to a Value-of-Marriage Survey and completed the Indiana Inventory of Personal Happiness. Shifts in pornographic preferences were ascertained in the second week after the exposure treatment.

The impact of prolonged consumption of pornography on the evaluation and desirability of marriage, family, and children was explored for its apparent implications for public health. The nuclear family is generally considered vital for societal welfare (e.g., Reiss, 1980). In terms of educational efforts, the family concept seems universally endorsed. Its values are rarely allowed to be challenged. Yet the values expressed in pornography clash so obviously with the family concept, and they potentially undermine the

traditional values that favor marriage, family, and children.

Even a cursory look at pornography makes this very clear. Pornographic scripts dwell on sexual engagements of parties who have just met, who are in no way attached or committed to one another, and who will part shortly, never to meet again. Not by accident, the parties involved accept no curtailment rules for their social and sexual conduct, enjoy sexual stimulation for what it is, and do so at no social or emotional expense. Sexual gratification in pornography is not a function of emotional attachment, of kindness, of caring, and especially not of continuance of the relationship, as such continuance would translate into responsibilities, curtailments, and costs. Irrespective of the merits or demerits of the projection that much gratification is accessible from sexual activities involving unattached others, the projection is diametrically opposed to the values that promote enduring social aggregations, especially those that are to serve reproduction. Enduring intimate relationships curtail personal freedoms to some degree. Relationships that provide economic and emotional security are based on responsibility, if not on sacrifice. And where, in such a relationship, sexuality is vital and valued, partners tend to lay claim to exclusive sexual access. Finally, the decision to have a child or children, whether by a married couple or by persons otherwise aggregated, is probably the greatest responsibility that human beings accept. It amounts to restricted freedom, servitude, and to enormous expenditures for a good portion of adult life. If sexuality is considered part and parcel of such enduring relationships, there can be no question that it comes at a forbidding price. In terms of sheer recreational sexual joy, then, these relationships compare poorly with the short-lived ones that are continually exhibited in pornography--those that invariably show that

great pleasures can be had at next to no cost. Prolonged consumption of entertainment with clear messages of this kind thus must be expected to impact profoundly the perception and evaluation of sexuality and its social institutions and arrangements.

Strong perceptual and attitudinal changes were indeed observed. The perception of the very nature of sexuality changed. As can be seen from Figure 7, promiscuity in both men and women was deemed more

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Figure 7  
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natural after prolonged consumption of pornography than without such consumption. The effect was uniform for male and female respondents and for students and nonstudents. Beliefs in the faithfulness of sexual partners predictably declined with the greater acceptance of promiscuity.

Various attitudinal changes are shown in Figure 8. Prolonged

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Figure 8  
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consumption of pornography fostered greater acceptance of pre- and extramarital sexual relations for self and intimate partners. Along with that, it fostered acceptance of sexually nonexclusive relations with partners. Prolonged consumption also led to greater acceptance of the myth of health risks from sexual repression. Pornography apparently manages to convey the idea that unrestrained sexuality is wholesome and healthy, and that any restraint poses risks. All these effects are uniform for men and women, students and nonstudents. Additionally, prolonged consumption of pornography was found to counteract gender equality. For intimate relationships, male dominance was favored over egalitarianism. This effect was also uniform for the various groups. Overall, however, females embraced

egalitarianism more than did males, and students embraced it more than did nonstudents.

Pornography consumption had a most powerful effect on evaluations of the desirability and viability of marriage. Endorsement of marriage as an essential institution dropped from 60.0% in the control groups to 38.8% in the treatment groups. The effect was again parallel for males and females, students and nonstudents.

The most astonishing effect of prolonged pornography consumption on family values, however, concerns the desire to have children. As can be seen from Figure 9, exposure to pornography reduced the desire

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Figure 9  
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to have children, and it did so in a uniform fashion. Male and female respondents, students and nonstudents alike, wanted fewer children on the average. The desire to have male offspring dropped 31%. The desire for female offspring, being lower overall, dropped by about twice that margin: 61%. This reduction proved specific to gender. Male respondents expressed little desire for female offspring altogether. It is the desire of females for offspring of their own kind that, after consumption of pornography, shrank to one third of its normal strength (see right-hand side of the graph).

These findings suggest that prolonged consumption of pornography, presumably because it continually projects the attainment of sexual joy without acceptance of social confinements and obligations, indeed makes having children and raising a family appear an unnecessary inconvenience. But such reasoning explains only the overall reduction in reproductive desire. It leaves unexplained the discrimination against female offspring by women. Exactly what, within pornography, inspires this own-gender discrimination remains unclear.

The Indiana Inventory of Personal Happiness generated clear-cut findings. None of the items unrelated to sexuality showed differences in happiness or satisfaction. In stark contrast, all items pertaining

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Figure 10  
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to sex were impacted. Prolonged consumption of pornography reduced sexual satisfaction and sex-related personal happiness markedly, and it did so uniformly. The separation of elements of sexual satisfaction and happiness into an affective component (i.e. loving, caring), on the one hand, and into sexual activities as such, on the other, made it clear that satisfaction with sexual specifics--the looks of intimate partners, their sexual performance, and their willingness to engage in novel sexual activities--had suffered the most.

The findings point to a paradox. Presumably, pornography is initially consumed in hopes of increasing sexual satisfaction. But consumers eventually compare appearance and performance of pornographic models with that of their intimate partners, and this comparison rarely favors their intimate partners. The result is the realization that, in sexual matters, others may be more gratified. Dissatisfaction with intimate partners and perhaps with sex at large seems the inevitable result.

The final study in this series concerned shifting preferences for pornography. Two weeks after the exposure treatment, subjects returned once more to the laboratory. An unavoidable delay was announced, and they were ushered into the office of a research assistant that was equipped with a monitor, a cassette player, and numerous cassettes. They were encouraged to watch cassettes from his collection while waiting. The cassettes contained movies that were

G- and R-rated. However, some cassettes were X-rated and featured common nonviolent pornography, bondage, sadomasochism, or bestiality. The subjects' consumption of the various cassettes was unobtrusively monitored.

As Figure 11 shows, subjects with prolonged exposure to common pornography expressed virtually no interest in this common form of

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Figure 11  
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pornography. The males moved almost exclusively into pornography depicting less common sexual practices. Females showed the same preference, but to a markedly lesser degree.

The findings demonstrate that consumers of pornography that depicts the more common forms of sexuality are not likely to limit themselves to these forms when given the opportunity to consume material featuring less common sexual practices, including sadomasochistic and violent sexual behaviors. This shift in preference can be expected on the basis of satisfied curiosity about common sexuality as well as on the basis of excitatory habituation to frequently consumed fare. Pornography featuring the uncommon, in contrast, is still met with curiosity, and probably more importantly, it is still capable of producing sexual excitedness. Surely, some erotica connoisseurs will be nostalgic about so-called mild stimuli. But the research projects that, as a rule, consumers will advance to extreme material before, perhaps, reaching dead end and returning to whatever erotica in their recollection fostered the most gratifying sensations. With regard to young consumers, it can only be speculated at this point that they are likely to be more strongly motivated by curiosity than by excitatory habituation. This does not detract from the fact, however, that they are also inclined to go beyond the common

and seek exposure to the less common sexual expressions, including aberrations--violent ones, in particular. For older consumers, a preference shift toward violent erotica, specifically, is to be expected, because witnessed violence is sympathetically arousing and, hence, well suited to supplement fading excitement (owing to habituation) with pure erotica (cf. Zillmann, 1986).

Bryant (1985) conducted an investigation to show that prolonged consumption of common pornography influences moral judgment concerning sexual behaviors specifically. Male and female subjects consumed pornography or innocuous material in one-hour sessions in five consecutive days. Two days later they participated in an ostensibly unrelated study in which they evaluated the moral indefensibility of numerous nonsexual and sexual improprieties and transgressions. Subjects indicated the degree to which they thought a particular social behavior was morally right or wrong.

Exposure to pornography proved to be without consequence for the moral judgment of nonsexual behaviors (e.g., drunken driving, shop lifting). In contrast, it greatly influenced the judgment of improprieties in the sexual realm (e.g., self-advancement through sexual favors, cover-up of homosexual relations to a heterosexual lover). Specifically, it consistently relaxed the moral verdict on behaviors that were deemed dishonest or immoral by those without the exposure in question.

The investigation connects with the earlier work on the perceived popularity of sexual practices as well as with that on the growing acceptance of sexual freedoms in socially confined situations, such as marriage. Pornography's impact on the perception of sexual behaviors--their overestimation, in particular--apparently grants these behaviors greater normalcy and, therefore, greater moral

legitimacy. The observation that the morality manifest in pornography finds expression in the moral judgment of sexual conduct generally is consistent with such an interpretation.

Finally, Check (1985b) conducted a most informative study in connection with the Fraser Committee on Pornography and Prostitution in Canada. Unlike the studies by Linz (1985) and Krafska (1985) in which pornography was secondary to R-rated horror films, Check's investigation focuses on pornography proper and applies the violent-nonviolent distinction within pornography proper.

Three content classes were distinguished: nonviolent erotica, nonviolent dehumanizing pornography, and sexually violent pornography. Nonviolent erotica portrayed sexual behaviors free of "objectionable elements." As part of the material was taken from sex-education and sex therapy programs, the depicted behavior could be deemed ideal, if not idealized. Nonviolent, dehumanizing pornography entailed scenes such as a man sitting atop a woman, masturbating, and ejaculating into her face. Sexually violent pornography, finally, featured events such as the penetration of a woman with an oversize plastic penis while she was strapped to a table.

Because the labels of these forms of pornography have created confusion and misunderstandings already (e.g., Check, 1985a; Zillmann & Bryant, in press), clarification seems in order. The qualifier "dehumanizing" suggests a class of erotic stimuli somewhere between pornography and violent pornography. It also implies that most pornography is not dehumanizing. In fact, this has been assumed to be the case in the interpretation of Check's findings. Yet, commonly available pornography abounds with events such as masturbation into the face--which is usually followed by the female's pleasurable ingestion of sperm. Systematic content analysis leaves no doubt about

it (Palys, 1984). Some parties might well find behavior of this kind demeaning to someone. Others might object to the depiction of rear-entry coition. Where should one draw the line? On the one hand, then, the judgment of what is dehumanizing to whom and what is not is far too value-laden to be workable. On the other hand, it appears that what is referred to as dehumanizing pornography is nothing other than common pornography. It is the class referred to as nonviolent erotica that is uncharacteristic, as it is devoid of so-called entertainment value. We thus shall substitute labels and refer to nonviolent erotica as good-sex or ideal pornography and to nonviolent, dehumanizing pornography as common pornography. We shall maintain the label violent pornography, however, although it is debatable whether consented-to sadomasochistic scenarios--such as the one specified--qualify as violent or even coercive.

In Check's investigation, male students and nonstudents (a nonrepresentative sample similar to that in the study by Zillmann and Bryant, in press) came to three exposure sessions that were scheduled within one week or two weeks. Subjects consumed a 30-minute tape of one of the three kinds of pornography each session. On average four to five days later, they participated in a test session in which the impact was ascertained. A control group participated in this test session only. The effects of interest were sexually aggressive attitudes, the inclination to coerce and force women into unwanted sexual acts, and the proclivity for rape. The measures were mainly those developed by Malamuth (1981).

Prolonged exposure to pornography influenced both the reported likelihood of coercing women into unwanted sexual acts and, more importantly, the reported likelihood of committing rape. As can be seen from Figure 12, the likelihood of forced sexual acts increased

significantly after prolonged consumption of common pornography. Increases after consumption of ideal pornography and violent pornography are apparent, but were not reliable. The effect pattern

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Figures 12 and 13  
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for rape proclivity proved to be similar, yet different. Both common and violent pornography increased the reported likelihood of committing rape significantly and to the same degree. The apparent increase from consumption of ideal pornography again failed to be reliable.

The investigation by Check has obvious implications for public health. It shows that, on the whole, common nonviolent pornography has the strongest influences on men's willingness to force intimate partners into forms of sexuality that are not necessarily to their partners' liking and on the propensity for forcing sexual access altogether. Violent pornography apparently has the same power to increase rape proclivity, but its influence on the coercion of specific sexual acts is limited, if not negligible. Sex-idealizing pornography is the only form without clear-cut effects on the readiness for sexual coercion and on rape proclivity. But even here caution is indicated, because the effect is consistently intermediate and clearly in the same direction as that from the other forms of pornography. Although the effect is not reliably above the control condition, it is never reliably below the effect of these other forms either.

Check's investigation provided further useful information. Subjects were classified in terms of psychoticism (Eysenck & Eysenck, 1976). Persons high on psychoticism are known to be rather solitary and hostile, to lack empathy and to disregard danger. They also are

known to prefer impersonal, noncaring sex (Eysenck, 1976). Subjects scoring comparatively high on the psychoticism scale (but not high enough to meet clinical criteria) were those greatly influenced by common nonviolent and violent pornography. In contrast, subjects scoring low on this scale were only negligibly affected. This effect pattern is shown in Figure 13.

A final observation of interest concerns heavy consumers of pornography. The findings reported by Check show that continued consumption of common pornography by those already in the habit of consuming such material fosters significant increases in rape proclivity. The same exposure was without appreciable impact for persons not taking a strong interest in erotica. Considering the propensity for rape, then, those who take a keen interest in erotica seem to constitute the population at risk of becoming coercive and violent in their sexuality.

#### Summary of Effects

The experimentally demonstrated effects of prolonged consumption of pornography can be summarized as follows:

(a) Excitatory responses to pornography, both specifically sexual and general ones, diminish with prolonged consumption. Some degree of recovery occurs spontaneously. It remains unclear, however, which conditions might facilitate or hamper such recovery.

(b) Repulsion evoked by common pornography diminishes and is lost with prolonged consumption.

(c) Prolonged consumption of common pornography does not lead to increased enjoyment of the frequently consumed material. Only less common forms of pornography that depict less common forms of sexuality tend to elevate enjoyment.

(d) Prolonged consumption of common pornography fosters a

preference for pornography featuring less common forms of sexuality, including forms that entail some degree of pseudoviolence or violence.

(e) Prolonged consumption of common pornography distorts perceptions of sexuality. Specifically, it fosters presumptions of popularity for all less common sexual practices and of health risks from sexual hypoactivity.

(f) Prolonged consumption of common pornography promotes increased acceptance of pre- and extramarital sexuality. Although it increases distrust among intimates, the violation of sexual exclusivity is more readily tolerated. Moral condemnation of sexual improprieties diminishes altogether.

(g) Prolonged consumption of common pornography spawns doubts about the value of marriage as an essential societal institution and about its future viability.

(h) Prolonged consumption of common pornography leads to diminished desire for progeny. The strongest effect of this kind concerns the desire of females for female offspring.

(i) Prolonged consumption of common pornography breeds discontent with the physical appearance and the sexual performance of intimate partners. To a lesser degree, it breeds discontent with these partners' affectionate behavior.

(j) Prolonged exposure to nonviolent and violent pornography promotes insensitivity toward victims of sexual violence.

(k) Prolonged consumption of common pornography trivializes rape as a criminal offense.

(l) Prolonged consumption of nonviolent and violent pornography, especially of the former, promotes men's propensity for forcing particular sexual acts on reluctant female partners.

(m) Prolonged consumption of nonviolent and violent pornography

increases men's propensity for committing rape. This effect is pronounced for normal men manifesting some degree of psychoticism; it is negligible for men with minimal psychotic tendencies.

(n) Habitual consumers of common pornography, in contrast to occasional consumers, are at risk of becoming sexually callous and violent.

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## Figure Captions

- Figure 1. Habituation of sexual arousal. From Howard, Reifler, and Liptzin, 1971.
- Figure 2. Habituation of sympathetic excitation. From Zillmann and Bryant, 1984.
- Figure 3. Diminution of repulsion. From Zillmann and Bryant, 1984.
- Figure 4. Enjoyment changes. From Zillmann and Bryant, 1984.
- Figure 5. Incarceration recommendations for rape. From Zillmann and Bryant, 1982.
- Figure 6. Perceptual consequences. From Zillmann and Bryant, 1982.
- Figure 7. Further perceptual consequences. From Zillmann and Bryant, 1986a.
- Figure 8. Attitudinal consequences. From Zillmann and Bryant, 1986a.
- Figure 9. Reproductive desire. From Zillmann and Bryant, 1986a.
- Figure 10. Effects on sexual satisfaction. From Zillmann and Bryant, 1986b.
- Figure 11. Changing erotic preferences. From Zillmann and Bryant, in press.
- Figure 12. Reported proclivity for coercion of sexual acts on uncooperative partners (circles) and for rape (squares). Data points not sharing a letter differ significantly in comparisons along gradients. From Check, 1985b.
- Figure 13. Reported rape proclivity as a function of psychoticism. Data points not sharing a letter differ significantly in comparisons along gradients. From Check, 1985b.

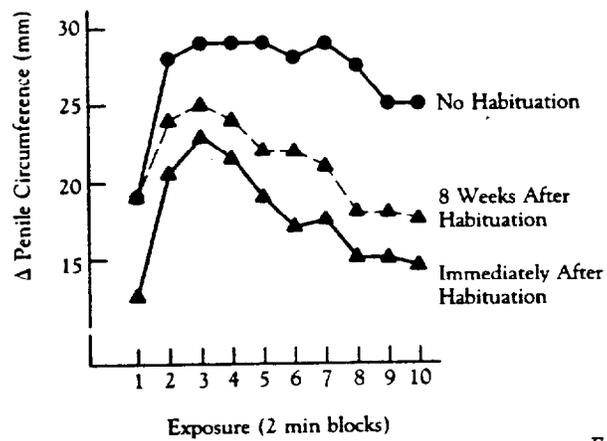


Fig.1

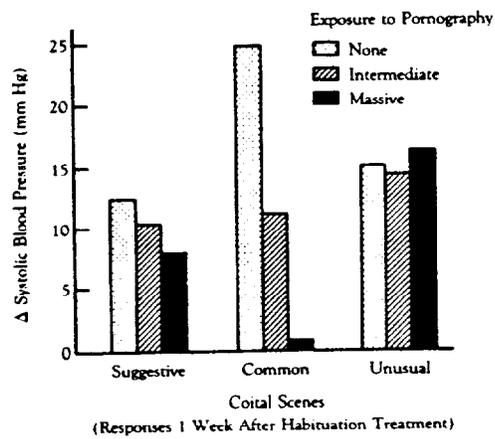


Fig.2

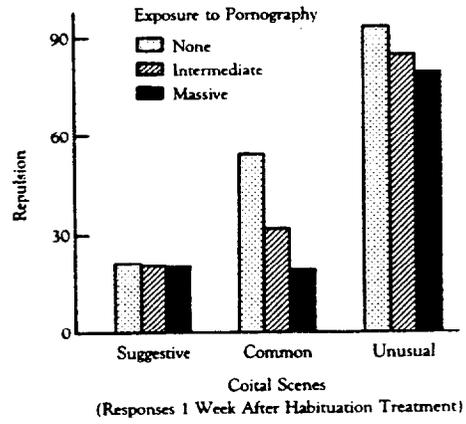


Fig.3

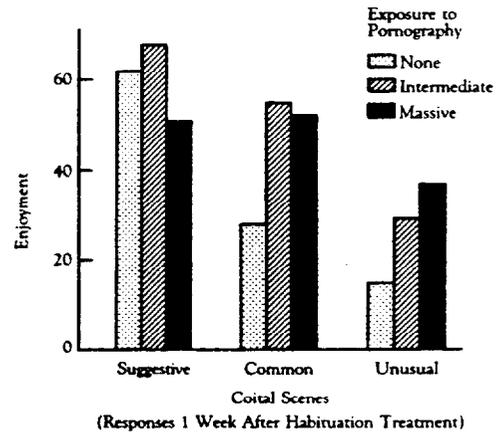
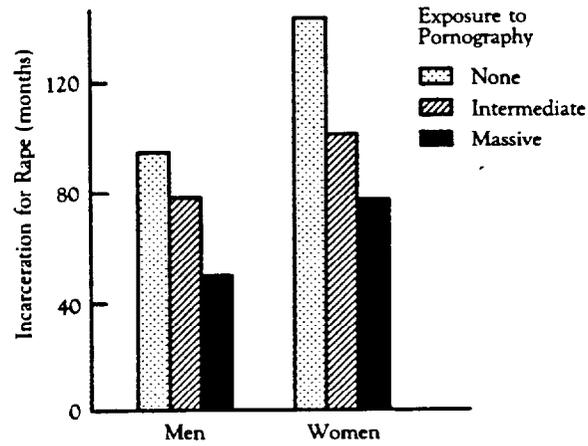
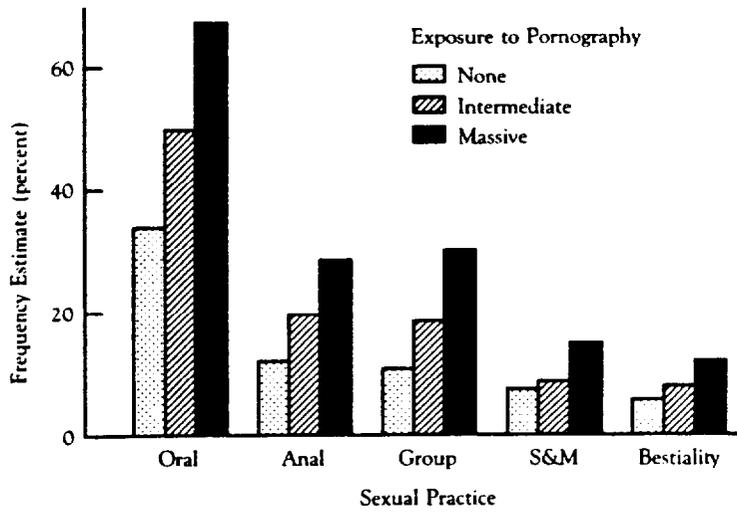


Fig.4



(Responses 3 Weeks After Habituation Treatment)

Fig.5



(Responses 3 Weeks After Habituation Treatment)

Fig.6

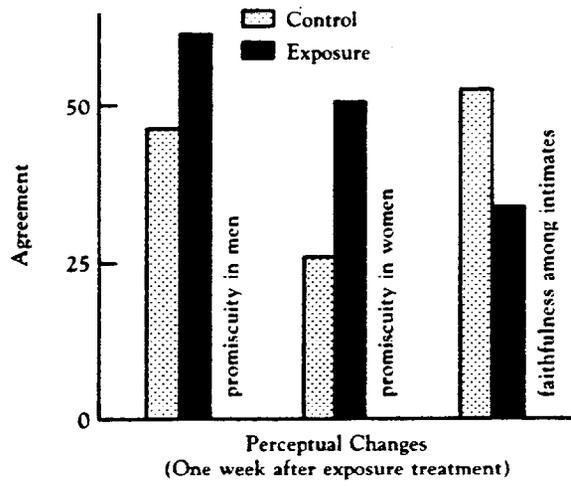


Fig. 7

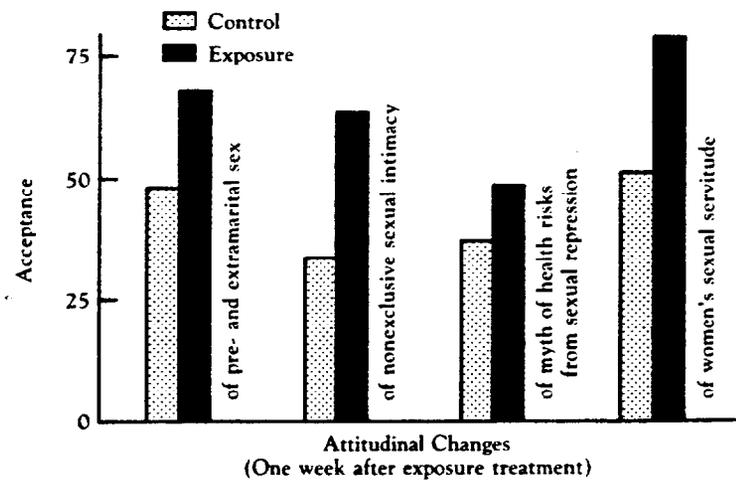


Fig. 8

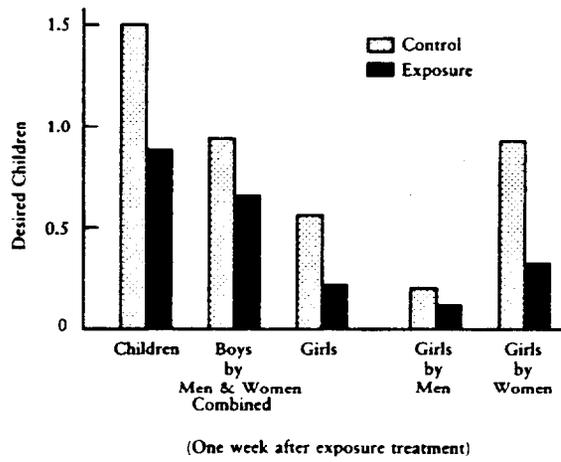


Fig.9

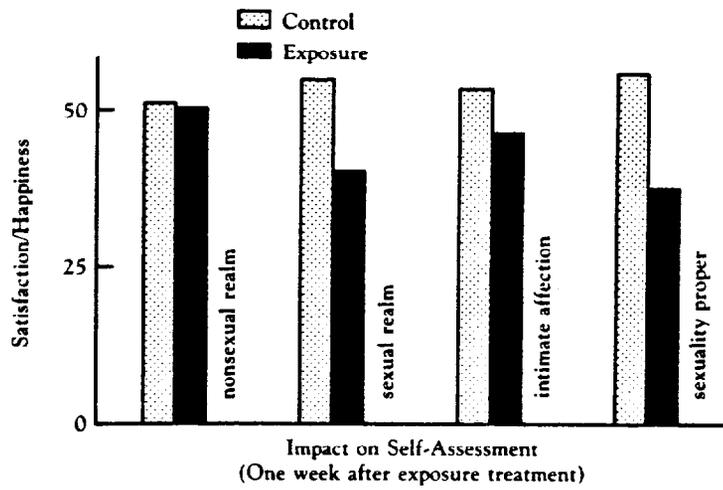


Fig.10

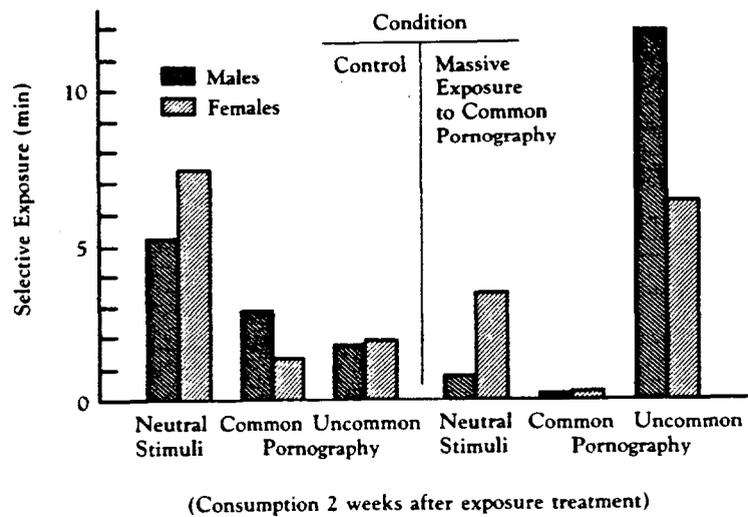


Fig.11

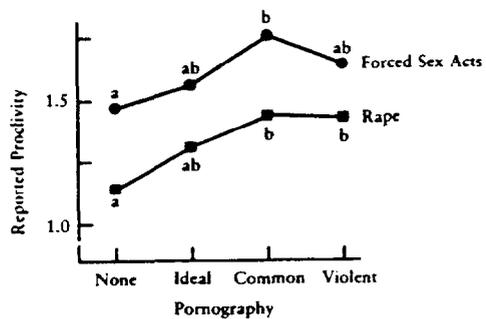


Fig.12

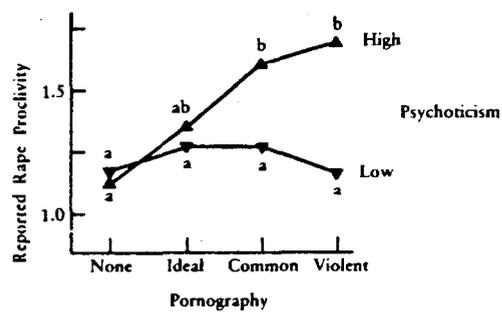


Fig.13